



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,704	02/18/2005	Stephen J Bennison	AD6926USPCT	4980
7590 08/13/2008 E I du Pont de Nemours & Company Legal Patents Wilmington, DE 19898				
EXAMINER NAKARANI, DHIRAJLAL S				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
08/13/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/525,704

**Applicant(s)**

BENNISON ET AL.

**Examiner**

D. S. Nakanari

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,7-10,14-17 and 21-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,7-10,14-17 and 21-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date 03/10/2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-3, 7-10, 14-17, 21 and 27-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Philips (U. S. Patent 4,230,771).

Phillips discloses a glass laminate comprising two glass layer bonded together using plasticized polyvinyl butyral (PVB) (Claim 7 and Example 1). Phillips discloses the PVB having hydroxyl content of about from 15 to 30 percent calculated as polyvinyl alcohol (Claims 2 and 3). The plasticized PVB comprises from 20 to 55 wt. parts of tetraethylene glycol di-n-heptanoate (4G7) per 100 wt. parts of PVB (Claims 4 and 5). Phillips discloses PVB having residual hydroxyl content 20 percent containing 49 wt. parts 4G7 per 100 wt. parts PVB (Col. 2, lines 55-62). Phillips discloses that as hydroxyl content decrease in the PVB resin, plasticizer compatibility increases. That is lower the amount of hydroxyl content in the PVB resin higher amount of plasticizer can be used (Fig. 1, col. 2, line 50 to col. 3, line 2). Phillips does not specifically disclose Flexural Damping properties claimed in claims 30 and 31. However since the PVB and the plasticizer 4G7 concentration falls within the claimed range, all properties not specifically disclosed are deemed to be inherent properties unless shown otherwise.

3. Claims 1-3, 7-10, 14-17 and 21-35 rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips (U. S. Patent 4,230,771 in view of D'Errico et al (U. S. Patent

6,559,212 B1) and Discussion of the Related Art (Page 1, line 14 to page 3, line 12 of present specification).

Phillips, which has been discussed above in paragraph 2, discloses glass laminate. However Phillips fails to exemplify composition comprising 49 wt parts of 4G7 plasticizer per 100 wt parts of polyvinyl butyral resin having residual hydroxyl content less than 20 wt% (e.g. 19 wt%) and exemplify use of glass laminate. As per applicants' Discussion of Related Art it is known to use glass laminates in an automobile, train, a plane, and in a building as a partition, a wall, a floor or a ceiling, are known.

D'Errico et al disclose that when PVB resin having residual hydroxyl content in the range of 17.1 to 18.6 wt%, loss of plasticizer triethylene glycol di-2-ethylhexanoate (3GEH or 3GO as per present disclosure at page 4, line 31) is less than 1 wt% across the entire spectrum of temperatures and humidity likely to be encountered by PVB interlayer in commercial use (Col. 3, lines 23-38 and Exs. 1-3). Present disclosure discloses equivalent use of plasticizer 3GO and 4G7 at page 4 lines 27-32).

Therefore it would have been obvious to a person of ordinary skill in the art at the time of this invention made would use Phillips laminate in the known applications and use PVB resin having residual hydroxyl content in the range of 17.1 to 18.6 wt% to minimize loss of plasticizer to maintain integrity of interlayer in a safety glass laminate on exposure to all the various conditions the laminate and interlayer might encounter in use as taught by D'Errico et al (Col.1, lines 50-65 and Exs. 1-3). Also a person of ordinary skill in the glass laminate art would have found it obvious to optimize composition of the interlayer depending on application.

No claims are allowed.

4. Receipt of Information Disclosure Statement filed March 10, 2008 is acknowledged. All recited documents have been made of record. Recited documents B and C under OTHER PRIOR ART section of PTO/SB/08B (07-06) have been crossed out to prevent duplicate citation on any patent issued from this application. These documents have been listed under FOREIGN PATENT DOCUMENTS section of PTO/SB/08B (07-06).

5. Applicant's arguments filed May 09, 2008 have been fully considered but they are not persuasive. In reference to rejection of claims 1-3, 7-10, 14-17, 21 and 27-35 under 35 U.S.C. 102(b) as being anticipated by Philips (U. S. Patent 4,230,771) and claims 1-3, 7-10, 14-17 and 21-35 under 35 U.S.C. 103(a) as being unpatentable over Phillips (U. S. Patent 4,230,771 in view of Discussion of the Related Art (Page 1, line 14 to page 3, line 12 of present specification), applicants mainly argue that Phillips does not teach or suggest PVB interlayers and glass laminates or articles having sound-damping properties. Phillips does not teach or suggest use of PVB resin having a hydroxyl number in the range of from about 17 to about 19.5 in conjunction with 4G7 in an amount in the range of from about 40 to about 50 parts per hundred (pph). Applicants also state that the claimed invention provides unexpected results over the products described by Phillips and in support submitted Declaration, Under 37 CFR 1.132, of Dr. Stephen J. Bennison.

These arguments unpersuasive because there is no showing that PVB resin having residual hydroxyl groups content of 20 wt% and containing 49 parts of 4G7 plasticizer per hundred. Furthermore, the declaration shows expected results because as plasticizer content increases the sound-damping expected to improve. In addition the Example 1 compared to Example 2 show lower sound-damping. The PVB resin in Example 1 has 18.5 wt% residual hydroxyl groups content while PVB resin in Example 2 has 22.1 wt% residual hydroxyl groups content. Phillips' product, (Example 5), also shows somewhat sound-damping as per Declaration. The invention as claimed in independent claims does not require any minimum sound-damping properties.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. S. Nakarani whose telephone number is (571) 272-1512. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/D. S. Nakarani/  
D. S. Nakarani  
Primary Examiner, Art Unit 1794**

DSN  
August 10, 2008.